itself to other workers in the same field, are only matters of detail that in no way affect the facts established by him.

Dr. Vogel's activity was shown in almost every branch of photography, and in many of its applications. His astronomical work, especially in connection with eclipses of the sun, is well known. The existence and prosperity of the Imperial Technical High School of Photography, at Berlin, is the best of evidence of his work as a teacher. His "Handbook of Photography," "Practical Spectrum Analysis," and other treatises, will long remain as useful guides. The *Photographische Mitteilungen*, which he established in 1864 and conducted himself until quite recently, and the position that at one time he took up as correspondent of other technical papers, show how much he valued and worked for current photographic literature. There are few men who have done such varied and lasting work in connection with photography as Dr. H. W. Vogel.

NOTES.

WE notice with much regret the announcement that Prof. A. A. Kanthack, professor of pathology in Cambridge University, died on Wednesday, December 21, at the early age of thirty-five.

THE French Société d'Encouragement pour l'Industrie Nationale has received a gift of twenty thousand francs from M. Gilbert (of Givet), to be used for the advancement of French industries.

MR. FREDERICK G. JACKSON, the leader of the Jackson-Harmsworth Arctic expedition, has received a knighthood of the first class of the Royal Order of St. Olaf from King Oscar of Sweden and Norway.

A BIOLOGICAL Section for Agriculture and Forestry has been established in connection with the Imperial Sanitary Bureau at Berlin. Dr. Freiherr v. Tubeuf (of Munich) has been appointed botanist, and Dr. J. Behrens (of Carlsruhe) bacteriologist to the Section.

THE death is announced of Mr. John Barrow, F.R.S., at the age of ninety-one. He took an active part in promoting the search for Sir John Franklin, and was the author of several books of travel and descriptions of glaciers in the Alps. He was elected a Fellow of the Royal Society so far back as 1844.

THE following gentlemen have been elected corresponding members of the Zoological Society:—Dr. Ludwig Heck, of the Zoological Gardens, Berlin; Mr. William T. Hornaday, of the Zoological Park, New York, U.S.A.; Dr. Herman von Ihering, of the Musen Paulista, St. Paulo, Brazil; and Prof. Louis von Méhely, of the National Museum, Budapest.

WE learn from *La Nature* of December 24, that a mountain observatory has been erected at Mont Mounier, the highest point of the Maritime Alps, at 2816 metres above the sea-level, and about 90 kilometres north-west of Nice. The cost of the establishment has been defrayed by M. Bischoffsheim, a member of the Institute, who also endowed the Nice Observatory. The mountain station is connected by telephone with the telegraphic station at the village of Beuil, and meteorological observations are regularly made by M. Maynard. As the position is all that can be desired for the purpose, we may hope for some valuable results in connection with those obtained at the Nice Observatory. During the frosts of winter the temperature at the upper station falls to about 36° F. below the freezing point.

A RECENT number of the *Lancet* contains a paper by Mr. A. F. Stanley Kent, entitled "The Specific Organism of Vaccinia." The author has found a diplo-bacillus present in large numbers in the deeper parts of the vesicle. This organism he has succeeded in cultivating in artificial media, and has been able to produce, by its inoculation into animals, vesicles "indistinguishable from those produced in the ordinary course by vaccination with current lymph." Mr. Kent further states that animals which have been thus inoculated subsequently give no reaction when revaccinated with active lymph. Many investigators have been drawn into this field of research, but hitherto the difficulties of deciding the claims of so many rival candidates have proved insuperable. It will be important to have Mr. Kent's results repeated and confirmed by other workers, and there can be no doubt that his suggestive and promising achievement will give fresh energy to the conduct of experiments in this direction.

THE Shanghai Meteorological Society has issued its report for the years 1896 and 1897. The headquarters of the Society is at the Zi-ka-wei Observatory, of which the Rev. A. Froc, S.J., is Director. The observatory receives daily two or three telegrams from forty-two stations, including those from Corea, Japan, Formosa, and the Phillipines, and issues storm warnings to several ports. The present report contains a discussion of two notable typhoons which occurred on September 9 and 29, 1897. The first of these was of unusual violence; it fell like a thunderbolt upon the city of Yokohama, and caused considerable havoc there and in the neighbouring districts. The storm struck the steamship *Empress of India* in lat. 33° 30′ N., long. 137° 5′ E., on the night of September 8–9, and in the course of two hours the barometer on that vessel fell 1·25 inch, and in less than forty minutes the mercury again rose 1·40 inch. During part of its course the storm travelled at a rate of over fifty miles an hour.

THE effect of approaching storms upon song birds is the subject of an interesting contribution by Mr. C. E. Linney to the U.S. *Monthly Weather Review*. It appears that during the night of August 15–16 very severe electrical, wind, and rain storms prevailed over the northern district of Illinois. An observer in Henry County, Mr. W. W. Warner, noticed that for forty-eight hours before the storm not a sound was heard from the numerous song birds in the district. This observation was so full of interest that Mr. Linney wrote for additional information, with the result that he received numerous letters, some confirming it; others stating that birds sing louder and more persistently before a great storm, and nearly all agreeing that they are more restless than usual at such a time. Mr. Linney has found the following weather proverbs referring to song birds and storms:—When birds cease to sing, rain and thunder will probably occur.—If birds in general pick their feathers, wash themselves, and fly to their nests, expect rain.—Parrots and canaries dress their feathers and are wakeful the evening before a storm.—If the peacock cries when he goes to roost, and, indeed, much at any time, it is a sign of rain.—Long and loud singing of robins in the morning denotes rain.—Robins will perch on the topmost branches of trees, and whistle when a storm is approaching.—The restlessness of domestic animals and barn-yard fowls before an approaching storm is well known, and many of their peculiarities have been noted; but the actions of song birds do not appear to have previously received particular attention.

A FULL and well illustrated account of the manufacture of aluminium at Foyers is contained in *Commerce* for December 14. The works, which were completed at the end of 1896, are now in full operation. The raw material bauxite is obtained in County Antrim, whence it is transported to Larne. At Larne it is calcined, ground, and treated under pressure with caustic soda solution, whereby sodium aluminate is formed. The clear solution of aluminate is then agitated, and at the end of thirty-six hours deposits 70 per cent. of its burden of alumina. This alumina is dehydrated and heated until it becomes crystalline and non-hygroscopic. In this state it is shipped to Foyers, where it is electrolysed in a bath of cryolite. The total fall of water available at Foyers is 350 feet, and an ample supply at all seasons has been secured by the conversion of two lochs into a reservoir of 4000 million gallons storage capacity—a large engineering enterprise. Seven turbines are at present in action, each capable of developing 700 h.p. when running at 140 revolutions per minute. The dynamos are of large size, the commutators being six feet in diameter, and having 216 segments. Each dynamo has 120 brushes. The carbon electrodes are made by the company at a factory in Greenock. The aluminium turned out at Foyers is not pure enough for all purposes. The refining works are at Milton, in Staffordshire, where plant is provided for an output of four tons daily. Aluminium now at 1*s.* 3*d.* per lb. is bulk for bulk cheaper than copper, brass or tin. The works at Foyers have called into existence a small village, which appears to be well looked after by the directors of the company. It already boasts a club, which provides recreation and instruction for the workmen.

Letters have lately appeared in the *Lancet* wtth reference to the colours of newly-born negro children. Several medical men have given the result of their experience, and the evidence shows that at birth the children are of the colour of a light quadroon. In a paper on the natives of the Warri district of the Niger Coast Protectorate, published in the new *Journal* of the Anthropological Institute, it is recorded that "pure negroes when born are pink, like young rats; at the end of about three or four months they become black." Atmospheric conditions thus seem to be necessary to produce the full black colour of the negro.

The Anthropological Institute has just published the first number of a new series of its *Journal.* Since the foundation of the Institute an illustrated journal has been issued in quarterly numbers, forming, during the twenty-seven years of its existence, a series of as many volumes, containing numerous papers of great scientific value and interest. The old journal was a demy octavo (5½ × 8½ inches), but the new series is larger, being imperial octavo (11 × 7½ inches, nearly). The object of increasing the size is to include ample plates and tables, and bring the journal in general uniformity with the important publications of some of the continental anthropological societies. A number of very interesting papers appear in the first part of the new series, among the subjects dealt with being the ethnography of the Murray Islands, Torres Straits, Australian folk-lore stories, the pigmies of the Upper Welle district of the Belgian Congo, A-bantu and Ashanti skulls and crania, the natives of Tanna, and totemism.

An interesting paper by Dr. Brinton, on "The Linguistic Cartography of the Chaco Region," has just been reprinted from the *Proceedings* of the American Philosophical Society. The region known as El Gran Chaco, or the Great Hunting Ground, with which the paper is concerned, has always been peculiarly perplexing to students of American aboriginal languages. It lies in northern Argentina and eastern Bolivia, between latitude 18° and 32° South, and longitude 58° and 66° West of Greenwich. Except by the water-ways it is almost impossible to traverse the country, and for that reason extensive tracts of it are still unexplored. Dr. Brinton states that the native tribes who inhabited this region have always been in the lowest stages of culture, depending on hunting and fishing for their subsistence, without settled abodes, migratory and in ceaseless warfare with each other. The self-sacrificing efforts of the Jesuit and Franciscan missionaries have at times succeeded in gathering a few hundred together about some mission, only to be dispersed again on some slight cause. Thus, some years ago, in the middle of the night, the whole of the tribe of Penoquiquias, which had been converted and induced to take up a fixed abode, suddenly disappeared, and were never seen again. Dr. Brinton discusses recent contributions to the linguistic ethnography of the Chaco region, and offers some suggestions for the correct classification of tribes of still uncertain affinities.

On September 20 and 21, 1897, two strong earthquakes were felt in the island of Labuan, near Borneo, the pulsations of which were registered by magnetographs at Batavia, Bombay and Potsdam, and by various pendulums at Nicolaiew, Catania, Ischia, Rome, Edinburgh and the Isle of Wight. The detailed records are given by Dr. Agamennone in the *Bollettino* (vol. iv. No. 4) of the Italian Seismological Society, and the same writer has investigated the velocity of the earth-waves in a paper read before the R. Accademia dei Lincei (*Rend.*, vol. vii. pp. 155–162). If the initial times be calculated from that given by the Batavia magnetograms, the velocities for both earthquakes would be 28 or 29 km. per sec., but there can be little doubt that the earlier vibrations are not shown on these curves, and that these estimates are consequently too great. Assuming, however, as is probable, that the magnetographs were not disturbed until the arrival of the long-period pulsations, Dr. Agamennone concludes that the first pulsations travelled with a velocity of 4½–6½ km. per sec., and those which constituted the maximum phase with a velocity of 2½–3 km. per sec.

The Zoological Society have just issued the thirty-fourth volume of the *Zoological Record*, which contains a full account of the zoological literature of 1897, arranged in eighteen sections according to the usual plan of the work. The general editor of this most helpful publication is Dr. David Sharp, F.R.S. The various subjects have been undertaken by Mr. J. A. Thomson, Mr. R. Lydekker, F.R.S., Dr. R. Bowdler Sharpe, Mr. G. A. Boulenger, F.R.S., Mr. E. R. Sykes, Mr. E. A. Smith, Mr. G. C. Crick, Miss Florence Buchanan, Mr. A. W. Brown, Mr. F. A. Bather, and Dr. R. von Lendenfeld; while the general editor himself assumes the labour of the section relating to the Insecta, which occupies no less than 300 pages. The volume is prefaced by an alphabetical list of the abbreviations of the titles of publications used in the *Record*, which thus becomes a list of all the journals, *Transactions*, and other periodicals issued at the present time in which zoological papers are published. The number of these periodicals may be judged from the fact that the list contains 52 closely-printed pages. In this list the principal English libraries which contain copies of these periodicals are mentioned after every title. The volume concludes with an index to the names of new genera and subgenera proposed in 1897 and recorded in it, altogether 1574 in number. The corresponding total last year was 1541. No more useful piece of work could be done by the Zoological Society of London to facilitate the labours of working zoologists, and it is much to be regretted that all branches of science have not similar publications to assist the scientific "working man."

Several interesting papers on natural history topics appear in the *Transactions* of the Edinburgh Field Naturalists' and Microscopical Society (vol. iii. Part vii., 1898). Miss Sprague describes some common objects for microscopic study; Mr. W. Blacklock also deals with microscopy and some of its uses. The Rev. J. H. Lawrie gives an account of coral and coral-islands, with special reference to the New Hebrides group; and Mr. A. Murray contributes some interesting notes on the life-history and habits of wasps. His paper contains an account of observations made by him of wasps in their natural state, extending over a number of years, and it thus possesses the merit of original work. In the course of the paper Mr. Murray remarks: "There is one thing which puzzles me much, namely, how a blackbird can stand at the side of a hanging wasps' nest and tear it to pieces to devour the larva, and yet not be stung to death. The bird does not seem to be annoyed in any way, but if I venture to see what is going on, I am certain to be very much stung—I suppose, for not minding my own business." Among the other papers in the *Transactions* is one by Messrs. T. Scott and J. Lindsay, in which further results of the investigation of the micro-flora and micro-fauna of the Upper Elf Loch, Braids, are given. The paper illustrates the scientific benefits to be derived from a continuous examination of a particular loch or pond.

AT the Whitechapel Free Public Library and Museum, the following free science lectures (with lantern illustrations) have been arranged:—January 10, "How we digest our dinner," by Dr. E. H. Starling; February 7, "A piece of limestone," by Mr. F. A. Bather; March 7, "How animals warn their enemies and signal to their friends," by Cora B. Sanders.

WE have received the Christmas numbers of the *Gardeners' Magazine* and *Amateur Gardening*, both with very beautiful coloured illustrations, and a marvel of cheapness. Each periodcal is also illustrated with photographs taken in well-known gardens at home and abroad, drawings of fruits and flowers, and others that will commend themselves to the gardener and horticulturist.

THE works from the library of the late Prof. Mariano de la Paz Graells are offered for sale by Herr Felix L. Dames, Berlin. A catalogue (No. 44) containing a list of works on natural history and zoology, vertebrates, anthropology, travels, and rare Spanish books on the chase and falconry, has just been issued. Lists of papers, &c., on invertebrates, botany, and entomology will be given in future catalogues.

IT will interest microscopists to know that Mr. Charles Baker, maker of optical and surgical instruments and accessories, proposes to commence a new department for lending microscopic specimens, much on the same lines as a lending library. The arrangement should be of service to many amateur microscopists, especially beginners and those living in districts where there are no microscopical clubs or societies.

THE *Agricultural Gazette of New South Wales* for September is largely occupied with an account of the different species or varieties of *Opuntia*, or prickly pear, that have been introduced into the Colony, and the various modes of exterminating them. So great a pest to the farmers has this plant become, that the Colonial Legislature passed, in 1896, a stringent Act imposing heavy penalties on the growth of it, or on failure to extirpate it on cultivated land.

MR. W. J. C. MILLER, who was for many years registrar of the General Medical Council, and had to resign his duties owing to a sudden breakdown, is, we are informed, now in a satisfactory state of health. In announcing his forthcoming work on "Nature Studies" (p. 155), he was referred to as the late Mr. Miller, and we are glad to be able to correct the wrong impression thus conveyed.

A BUNDLE of papers upon the methods and results of teaching speech and the knowledge of language to deaf-mutes has been received from the Volta Bureau, Washington, D.C. It may be remembered that this Bureau was founded in the year 1880 by Dr. Alexander Graham Bell, with the Volta prize of fifty thousand francs received by him for the invention of the telephone. It has for its objects the increase and diffusion of knowledge relating to the deaf, and performs most useful work in furtherance of them. The publications issued by the Bureau show that astonishing results are obtained by systematic instruction on sound principles.

THE *Journal of the Royal Microscopical Society* for December contains a continuation of Mr. Millett's report on the recent Foraminifera of the Malay Archipelago collected by Mr. Durrand, as well as the usual summary of recent researches in zoology, botany, and microscopy. In the latter department the President, Mr. Nelson, gives an interesting account of a binocular microscope designed and made by an amateur, and of an old microscope made by Mr. J. Cuff about the year 1760. This number also contains the very useful list of new terms in zoology and botany introduced during the year into scientific terminology.

FOR the purpose of understanding the effects produced on cultivation and hygiene by the variations of the weather and the changes in the composition of the atmospheric air, the Montsouris Observatory was charged to carry on experiments and investigate problems connected with the climate and hygiene of Paris. The work of the observatory is divided into three sections, which may be roughly described under the headings: physics and meteorology, chemistry, and micrography. Every year the observatory issues a small volume, "Annuaire de l'Observatoire Municipal de Paris," in which is embodied much valuable information based upon the researches and observations carried on under its direction. Containing, as it does, a mine of facts which should prove very useful to scientific workers, the volume for 1899, which includes an account of the work accomplished in 1897, will be welcomed by many.

THE *British Journal Photographic Almanac* has steadily increased in size for the past few years, and the new number for 1899 contains no less than 1508 pages; this, of course, includes the host of advertisements, which by themselves are of interest to the photographer. Many of our readers are probably familiar with this annual publication, and will therefore know how difficult it is to make selections from the large amount of useful information given in it. We may say, with the editor, that the principal features of last year's volume have been repeated, and that all tables, formulæ, and other necessary facts for the photographer have been inserted and brought up to date. The volume contains, as usual, several specimens of reproduction processes, and illustrations of rapid shutter work, but they do not seem to be so numerous as in the previous publications. The Almanac should, however, be found in every studio, for the numerous facts contained in it will frequently be found of service.

THE compact little annual of the *Bureau des Longitudes* for 1899, published yearly by the National Convention to "propre à régler ceux de toute la Republique," is as interesting and complete as ever. It is unnecessary to refer to the detailed contents of the volume, but a statement of the alterations and additions that have been made in the present issue should be of interest. In the astronomical section the list of minor planets is brought up to September 13, 1898, and many details of these bodies, such as name, discoverer, date of discovery, duration of sidereal revolution, mean distance from sun, eccentricity and inclination are given. The table showing the elements of periodic comets has been revised, and a brief history is given of the comets which appeared in 1897. In the section devoted to geography and statistics, new values for the area of France, obtained from the Army Geographical Service, are inserted. M. Cornu has revised his article on electricity, and added a valuable note on electrical units as used in practice. The articles included in the volume always give special interest to it; they are this year on the following subjects:—On sounding balloons, by M. Bouquet de la Grye; modern French geodesy by M. Bassot; on the large siderostat and telescope of 60 metres focal length and 1·25 metres aperture, which is being constructed by M. Gautier; and, lastly, on the work done at the Mont Blanc Observatory in 1898, by M. Janssen.

THE additions to the Zoological Society's Gardens during the past week include a Puma (*Felis concolor*) from Argentina, presented by Mr. T. S. Nicholson; a Red and Blue Macaw (*Ara macao*) from Central America, presented by Mr. H. Sneggitt; a Gannet (*Sula bassana*), European, presented by Mr. A. Trevor-Battye; a Greek Partridge (*Caccabis saxatilis*) from Greece, presented by Lieut. J. H. Mackenzie, R.N.R.; a Lapland Bunting (*Calcarius lapponica*), a Reed Bunting (*Emberiza schnoeiclus*) European, presented by Mr. F. Chatwin; two Black-winged Peafowl (*Pavo nigripennis*, ♂ ♀) from Cochin China, presented by Mrs. Johnes; a Hallowell's Tree Snake (*Dendraspis viridis*) from the Gold Coast, presented by Mr. J. W. Kaye; an Antillean Boa (*Boa diviniloque*) from the West Indies, three Horsfield's Tortoises (*Testudo horsfieldi*) from Central Asia, deposited; a Triton Cockatoo (*Cacatua triton*) from New Guinea; six Gadwalls (*Chaulelasmus streperus*) from Holland, purchased; three Rosy-faced Love-birds (*Agapornis roseicollis*), bred in the Gardens; an Urial Wild Sheep (*Ovis vignei*, ♂) from Persia, received in exchange.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN JANUARY 1899:—

January 2. Meteoric shower from Quadrans (Radiant 230° + 52°.)
2. 7h. 14m. Minimum of Algol (β Persei).
4. 15h. 38m. to 17h. 24m. Transit of Jupiter's Satellite III.
5. 19h. Venus at her greatest apparent brilliancy and a fine object in the morning sky. She rises about 3½ hours before the sun, and is situated 10° north of the red star Antares in Scorpio.
7. 17h. 3m. to 17h. 48m. The star 42 Libræ (mag. 5·2) occulted by the moon.
9. 19h. Mercury in conjunction with the moon (☿ 2° 56′ N.)
9. 10h. 38m. Partial eclipse of the sun visible at Greenwich.
11 14h. Mercury at his greatest elongation (23° 35′ W.), rising about 1¾ hour before the sun, and situated 10° east of Saturn, and 19° east of Venus.
11. 19h. 48m. Ingress of Jupiter's Satellite III.
15. Jupiter. Polar diameter 32″·8.
15. Venus. Diameter 35″·4. Illuminated portion of disc 0·332.
18. 12h. Mars in opposition to the sun.
18. Mars. Apparent diameter 14″·4.
19. 8h. 5m. to 9h. 14m. The star μ Arietis (mag. 5·8) occulted by the moon.
22. 15h. 33m. to 16h. 29m. The star 121 Tauri (mag. 5·4) occulted by the moon.
24. 17h. 32m. to 18h. 26m. The star 56 Geminorum (mag. 5·0) occulted by the moon.
25. 5h. 45m. Minimum of Algol (β Persei).
30. 13h. 39m. to 14h. 57m. The star B.A.C. 4006 (mag. 5·7) occulted by the moon.

It may be mentioned as a very unusual circumstance, that during the first half of January all the major planets of the solar system may be observed in the morning sky.

COMET CHASE.—The following is the ephemeris for comet Chase for the ensuing week. The comet is moving in the southern extremity of the constellation of Ursa Major, and lies a few degrees south of the star ξ Ursæ Majoris.

Berlin Mean Midnight.

1898-9.		R.A. (app.) h. m. s.		Decl. (app.)		Br.
Dec. 30	...	11 2 24	...	+28° 18′·6	...	1·1
Jan. 1	...	3 40	...	28 39·6		
,, 3	...	4 49	...	29 1·1	...	1·1
,, 5	...	11 5 50	...	+29 23·5		

ARTIFICIAL PRODUCTION OF SUN-SPOTS.—In the *Archives des Sciences physiques et naturelles* (November) M. Th. Lullin describes some experiments he has been undertaking with regard to producing the forms of sun-spots artificially. Commencing with the now generally assumed hypothesis that sun-spots are caused by the downfall of cool matter from the higher regions of the solar atmosphere to the lower and more intensely heated gases, he has been investigating the behaviour of splashes of water on a viscous substance, such as barium sulphate placed on a glass plate. An examination of the illustrations which accompany his paper, shows that, even with these crude imitations of the real elements at work, very striking results can be obtained which have their counterparts in actual sun-spots. Thus the striated appearance radiating from the umbra is well obtained, while the appearance of bridges can be easily reproduced. In these experiments there seems every hope that by imitating the results of the falls of separate streams or series of drops simultaneously on to a surface of some liquid of less density, still greater approximation to the actual appearances of solar spots would be obtained.

THE HEAVENS AT A GLANCE.—For the last two years Mr. Mee has issued a small card which contained a large amount of useful information arranged in chronological order, showing the amateur at a glance the sequence of astronomical events of interest for the year. Unfortunately the information on this card was not clearly printed, but was simply a reproduction of the original handwriting of the compiler: on this account the card was not such a useful addition to an observatory as it might have been. The new issue for the year 1899 has, however, been altered in this respect, and it is well arranged and clearly printed. The constellations visible, the declination of the sun, the phases of the moon, those planets that are well placed for observation, are given for each month, together with the times of appearance of the most prominent meteor showers, maxima and minima of the principal variables, &c.

These are followed by notes on the sun, planets, eclipses, and others containing just that information that the amateur should find most useful: symbols and abbreviations have been used as little as possible. Equipped with this card, possessors of small telescopes have a useful and simple programme of the astronomical occurrences for the year 1899.

ARE MOLDAVITES OF CELESTIAL ORIGIN?—Herr Dr. Franz E. Suess, of Vienna, has had the opportunity of studying several hundreds of specimens of pieces of moldavite which had previously been found between "Trebitsch and Dukowan, near Mährisch-Kroman." These moldavites, which have a bottle-green, glass appearance, and are inclined to be egg-shaped, were first discovered at the beginning of this century, and very much doubt has been cast on their origin. In the paper before us (*Kaiserliche Akad. d. Wiss. in Wien*, November 17), Dr. Suess describes previous theories of origin suggested, and gives his own reasons for the opinion he has formed. A thorough examination of very many specimens has led him to believe that their surface forms can in no way be explained by weathering or collisions, but that these surface markings seem to be very closely related to the indentations of meteorites. All the surface markings on these moldavites can be explained on the assumption of the influence of an enormous air resistance. Dr. Suess then describes the differences in form of the surfaces he examined, and classifies them under different headings. In concluding his remarks, he suggests that the reason why the origin of these moldavites has not been previously attributed to the same as that of aerolites, can be accounted for only on the curious chemical nature of these bodies. Considering the comparative little knowledge we possess concerning the chemical nature of bodies of cosmical origin, we must conclude that we "must add to the known groups of aerolites a new group, namely moldavites."

It would be interesting to make a spectroscopic examination of some of these specimens, and compare their spectra with those of other meteorites that have been previously examined.